

Abstract of the Disclosure

5 A graphics display system integrated circuit is used in a  
set-top box for controlling a television display. The graphics  
display system processes analog video input, digital video  
input, and graphics input. The system incorporates a unified  
memory architecture that is shared by the graphics system, a  
CPU, and other peripherals. The unified memory architecture  
10 uses real time scheduling to service tasks. Critical instant  
analysis is used to find a schedule for memory usage that does  
not affect memory requirements of real time tasks while at the  
same time servicing non-real-time tasks as needed.

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SD PAS545315.1.\*-01/22/04 11:55 AM